

Title (en)

A SEMICONDUCTOR DEVICE AND A METHOD OF MANUFACTURING A SEMICONDUCTOR DEVICE

Title (de)

HALBLEITERBAUELEMENT UND VERFAHREN ZUR HERSTELLUNG EINES HALBLEITERBAUELEMENTS

Title (fr)

DISPOSITIF À SEMI-CONDUCTEUR ET PROCÉDÉ DE FABRICATION D'UN DISPOSITIF À SEMI-CONDUCTEUR

Publication

**EP 4040472 A1 20220810 (EN)**

Application

**EP 21154945 A 20210203**

Priority

EP 21154945 A 20210203

Abstract (en)

This disclosure relates to a semiconductor device comprising a first die (104), e.g. a GaN HEMT die, and a second die (108), e.g. a MOSFET die, the second die positioned on the top of the first die. The second die is attached using a die attach adhesive (106). The semiconductor device further comprises an encapsulant (110) deposited on the top of the semiconductor device, which encapsulant is covering the first die and the second die. Metallized vias (112) are created within the encapsulant, wherein the metallized vias are arranged to distribute terminals of the first die and the terminals of the second die to the top side of the semiconductor device.

IPC 8 full level

**H01L 21/60** (2006.01); **H01L 25/07** (2006.01)

CPC (source: CN EP US)

**H01L 21/565** (2013.01 - US); **H01L 23/3107** (2013.01 - CN); **H01L 23/3114** (2013.01 - US); **H01L 23/49** (2013.01 - CN); **H01L 24/19** (2013.01 - US); **H01L 24/20** (2013.01 - US); **H01L 24/24** (2013.01 - EP); **H01L 24/82** (2013.01 - EP); **H01L 25/072** (2013.01 - EP); **H01L 25/074** (2013.01 - CN US); **H01L 25/18** (2013.01 - US); **H01L 25/50** (2013.01 - US); **H01L 24/16** (2013.01 - EP); **H01L 24/29** (2013.01 - EP); **H01L 24/32** (2013.01 - EP); **H01L 24/73** (2013.01 - EP); **H01L 24/92** (2013.01 - EP); **H01L 2224/04026** (2013.01 - EP); **H01L 2224/04042** (2013.01 - EP); **H01L 2224/04105** (2013.01 - EP); **H01L 2224/12105** (2013.01 - EP); **H01L 2224/16227** (2013.01 - EP); **H01L 2224/214** (2013.01 - US); **H01L 2224/215** (2013.01 - US); **H01L 2224/291** (2013.01 - EP); **H01L 2224/2919** (2013.01 - EP); **H01L 2224/32145** (2013.01 - EP); **H01L 2224/73217** (2013.01 - EP); **H01L 2224/73267** (2013.01 - EP); **H01L 2224/82005** (2013.01 - EP); **H01L 2224/82039** (2013.01 - EP); **H01L 2224/83005** (2013.01 - EP); **H01L 2224/83855** (2013.01 - EP); **H01L 2224/92144** (2013.01 - EP); **H01L 2224/92244** (2013.01 - EP); **H01L 2224/96** (2013.01 - EP); **H01L 2224/97** (2013.01 - EP); **H01L 2924/01029** (2013.01 - US); **H01L 2924/10272** (2013.01 - EP); **H01L 2924/1033** (2013.01 - EP US); **H01L 2924/13062** (2013.01 - EP); **H01L 2924/13064** (2013.01 - EP US); **H01L 2924/13091** (2013.01 - EP US); **H01L 2924/18162** (2013.01 - EP); **H01L 2924/19107** (2013.01 - EP)

C-Set (source: EP)

1. **H01L 2224/291** + **H01L 2924/014** + **H01L 2924/00014**
2. **H01L 2224/97** + **H01L 2224/83**
3. **H01L 2224/96** + **H01L 2224/19**

Citation (applicant)

US 9721944 B2 20170801 - FURSIN LEONID [US], et al

Citation (search report)

- [XI] US 2012187565 A1 20120726 - EWE HENRIK [DE], et al
- [X] US 2020020638 A1 20200116 - HEO YU SEON [KR], et al
- [X] US 2012211892 A1 20120823 - KIM OHHAN [KR], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 4040472 A1 20220810**; CN 114864528 A 20220805; US 2022246595 A1 20220804

DOCDB simple family (application)

**EP 21154945 A 20210203**; CN 202210111341 A 20220129; US 202217591408 A 20220202